

TestAmerica Pittsburgh 10/11/2012 Date: October 2013 Revision No. 0

Client: Shaw Environmental & Infrastructure, Inc	QC Sample	e Resul	ts			TestAme	erica Job ID: 180-15160-1	
Project/Site: Dover AFB								
Method: 9040B - pH								
Lab Sample ID: LCS 180-51330/1 Matrix: Water					Client	Sample	e ID: Lab Control Sample Prep Type: Total/NA	
Analysis Batch: 51330	Spike	100	LCS				%Rec.	5
Analyte	Added		Qualifier	Unit	D	%Rec	%Rec. Limits	_
pH	7.00	6.970		SU		100	99 - 101	
								9
								10

TestAmerica Pittsburgh 10/11/2012

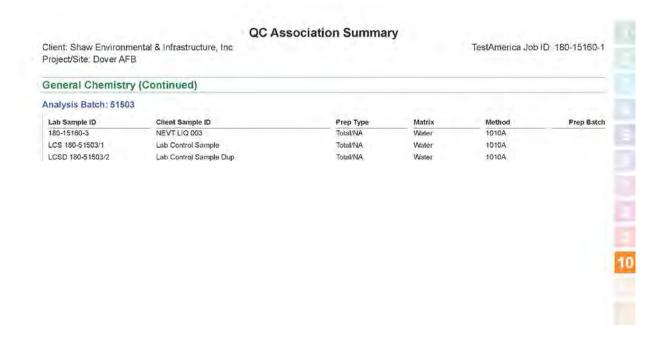
		sociation Summary	Client: Shaw Environmental & Infrastructure, Inc TestAmerica Job ID: 180-15160-1 Project/Site: Dover AFB							
GC/MS VOA										
analysis Batch: 51477										
Lab Sample ID	Citent Sample ID	Prep Type	Matrix	Method	Prep Batch					
180-15160-4	NEVT LIQ 004	Total/NA	Water	8260B/DoD	1.00					
180-15160-4 - DL	NEVT LIQ 004	Total/NA	Water	8260B/DoD						
180-15160-7	TRIP BLANK	Total/NA	Water	8260B/DoD						
LCS 180-51477/9	Lab Control Sample	Tolal/NA	Water	8260B/DoD						
LCSD 180-51477/10	Lab Control Sample Dup	Total/NA	Water	8260B/DoD						
MB 180-51477/3	Method Blank	Total/NA	Water	8260B/DoD						
Vietals										
Prep Batch: 51160										
Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch					
180-15160-1	NEVT LIQ 001	Total Recoverable	Water	3005A	Hattell					
LCS 180-51160/2-A	Lab Control Sample	Total Recoverable	Water	3005A						
LCSD 180-51160/3-A	Lab Control Sample Dup	Total Recoverable	Water	3005A						
MB 180-51160/1-A	Method Blank	Total Recoverable	Water	3005A						
Analysis Batch: 51262										
Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch					
180-15160-1	NEVT LIQ 001	Total Recoverable	Water	6010B/DOD	51160					
180-15160-1	NEVT LIQ 001	Total Recoverable	Water	6010B/DOD	51160					
LCS 180-51160/2-A	Lab Control Sample	Total Recoverable	Water	6010B/DOD	51160					
LCSD 180-51160/3-A	Lab Control Sample Dup	Total Recoverable	Water	6010B/DOD	51160					
MB 180-51160/1-A	Method Blank	Total Recoverable	Water	6010B/DOD	51160					
Prep Batch: 51295										
Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch					
180-15160-1	NEVT LIQ 001	Total/NA	Water	7470A						
LCS 180-51295/2-A	Lab Control Sample	Total/NA	Water	7470A						
MB 180-51295/1-A	Method Blank	Total/NA	Water	7470A						
Analysis Batch: 51346										
Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch					
180-15160-1	NEVT LIQ 001	Total/NA	Water	7470A/DOD	51295					
LCS 180-51295/2-A	Lab Control Sample	Total/NA	Water	7470A/DOD	51295					
MB 180-51295/1-A	Method Blank	Total/NA	Water	7470A/DOD	51295					
Analysis Batch: 51474										
Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch					
180-15160-1	NEVT LIQ 001	Total Recoverable	Water	6010B/DOD	51160					
LCS 180-51160/2-A	Lab Control Sample	Total Recoverable	Water	6010B/DOD	51160					
LCSD 180-51160/3-A	Lab Control Sample Dup	Total Recoverable	Water	6010B/DQD	51160					
MB 180-51160/1-A	Method Blank	Total Recoverable	Water	6010B/DOD	51160					
General Chemistry										
Analysis Batch: 51330										
Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch					
180-15160-2	NEVT LIQ 002	Total/NA	Water	9040B	r rep paten					
144 16166 6	THE R T LEASE WHEN	TOTAL INT	T THE STATE OF THE	00.100						

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TestAmerica Pittsburgh



Date: October 2013 Revision No. 0

Relinquished by:	Relinquished Bluen or Lind	Non-Hazard Hammable Special InstructionalQC Requirements & Comments:	Description of the same of the		NEUTUR COG	NEUTLIG OUS	WEDT LIQ OUT	NEUTUR ODS	LOG BITTUBA	NEUT LIBOOI	Sample Identification	PO#	18010644	DAEB	419-425-6067	Findley, DH 45840	16406 SR 224	Shaw Es 1	Client Contact
Company:	Company:	Skin Irritant									Sample Date Sam	1	Shipping/Tracking No:	FEDE X		E.maii:	419-348-462	Greg Norden	TestAmerica Laboratory location: Regulatory program:
Date/Time:		Poison B U			~	×	*	*	*	*	Air Aqurous . Sediment	Магіх	0:	FEDEX OVERNICH			8-4621	orden	1
	Date-Time: 5007 2612/1600 Date-Time:	Unknown Retan			~	*	×				H2SO4 HNO3 HCL	Sissin Sale	0.0	(#)	TA.	Analysis	443-7.	Site Contact: Steven	hain of Custoc
Received in Laboratory by:	Received by:	Sample Disposal (A fee may be assessed if samplets are crained longer than I month) Return to Client. Disposal By Lab Archive For						×	×	7	NaOH ZuAe/ NaOH Unpres Other:	Containers & Preservatives	2 days	2 weeks	TAT if different from below.	Analysis Turnaround Time (to BUS days)	1443-739-9621	en Bird	>3
y by:	ON PAY	d if samples are retain							×	X	Composit	e=C/	Grab=0				Telephone:	,	tsburgh
Сотраву:	Company:	Archive For			*	*	*	*			FLA		VC		7	Analyses		cti	PA
	TAG	Months																	. #16
Date/Time;	Date/Time: 090	lis									Sample Specific Notes / Special Instructions:		Jobs Book	Lab exampling #1	Wall-Holling	For all use only a financial	of COCs	COC No:	THE LEADER IN ENVIRONMENTAL TESTING TrestAmerica Laborratories, Inc



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After Action Report EDS at DAFB Date: March 2013 Page: D-4 of D-120

Analysis Request Form Chain of Custody M6FORM-43 Revision 6 Issue Date August 20, 2012 DELIVER TO US ARMY RDECOM, ECBC, EMI	_	Steven T. Bird/ Raymond A. Dil 183 BLACKHAWK RD. Af 10-652-3813	Berardo/A	MSRD-EC 21010-54	B-CB-CP	/ECBC	
ATTN Steven D. Norman, 63330, RM 184	EMAIL: D	iberardo, Raymond A C	IV (US) <re< td=""><td>ymond.a</td><td>diberare</td><td>to.cıv@m</td><td>ail.mil></td></re<>	ymond.a	diberare	to.cıv@m	ail.mil>
PROJECT: EDS HD Destruction Operations, Dover, AFB SAMPLE LOCATION: EDS Vessel, EOD Range, Dover AFB, DE SAMPLER(SI/ORG: DOLLIG TROW) DATE and Table SAMPLE NAME (Limit to 30 characters)	/ ECBC	CONVAINTE	LA-Dithiane	1,4-Thioxane	FOR A	NALYSIS	ANALYTE LIST* GA, GB, GD, GF, HD, HN-1, HN-3, L, DIMP, DMMP, MPA, EMPA, IMPA, PMPA, 1,4-Dithiane, 1,4-Thioxane, Phrodiglycol ** Additional analytes available on request COMMENTS
1461/12 124 DAF-HD 121001-DUCT	WEH [SSINH		X C			
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					11 5	1 [1]	
Observed Suspect Contamination (Check box to indicate a hig	h probability of chemica	al warfare agent presence	e.g. visibl	e liquid, le	aking mu	nition, etc	5.)
Relinguished By (Print) (Signature) TROTT (SCHOL) (Signature) Relinguished By (Print) (Signature)	Date/Time	Received By (Print) Jegina 5 Fire / Received By (Print)	·#	ورزا زرگ وای مسیر	mature)	2	Date/Time C/GC7/L Date/Time
Relinquished By: (Print) (Signature:	Date/Time	Received By: (Print)		(5:9	nature:		Date/Lime

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After Action Report EDS at DAFB

Date: March 2013 Page: D-5 of D-120



ECBC Environmental Monitoring Laboratory Building E3330, Room 184 Aberdeen Proving Graund, MD 21010-5423

> Phone: 410.436.8428 Fax: 410.436.2969

Analytical Narrative Revised 10/05/2012

Client/Project: CMA-PMNSCM / Dover AFB EDS

Extraction Analyst: James Fackett

Analyst: James Fackett

Reviewer: John Schwarz

Date Received: 10/01/2012

Date Extracted: 10/01/2012

Batch No(s): DOV12100101

ECBC Sample No(s): DOV120001

Sample Summary

One liquid (90% MEA) sample and associated quality control were analyzed using GCMS on 10/01/2012 following the procedures specified in IOP MT-60, Revision 0, for the following: HD, 1,4-Thioxane, and 1,4-Dithiane.

All three analytes of interest were detected in sample DOV120001 (DAF-HD-121001-DL-01) at concentrations greater than the laboratory Limit of Quantitation (LOQ).

A dilution of the sample extract was performed to fully quantify the results for 1,4-Dithiane within the calibration range.

Sample & Method Performance

Tuning: All tune criteria were met and the reported samples were analyzed within the twelve-hour tune limit.

Calibration: All initial and continuing calibration criteria were met.

Internal Standard Responses: All internal standard responses met method requirements.

Surrogate Recoveries: All surrogate recoveries met method requirements.

LCS/LCSD(s): All quality control criteria were met for the LCS/LCSD.

Method Blank(s): The method blank was free of the analytes of interest to one-half the laboratory LOQ.

MS/MSD(s): All of the quality control criteria were met for the MS/MSD for HD. The MS and MSD recovery for 1,4-Dithiane were greater than the QC limits. In addition, the Relative Percent Difference (RPD) for 1,4-Dithiane and 1,4-Thioxane was greater than the QC limits. These exceptions were a result of the concentrations of the analytes in the matrix and do not adversely affect the results reported.

CERTIFICATE OF ANALYSIS

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Revision No. 0

After Action Report EDS at DAFB Date: March 2013 Page: D-6 of D-120





Analytical Results

PART 1

MBFORM-41 Revision 12 March 2010

PROJECT: DOVER EDS Operation

Reporting POC: Ray DiBerardo of ECBC ECBC: Ray DiBerardo

Phone/Fax: W: F:

Client Sample ID DAF-HD-121001-DL-01

Sample Date 10/1/2012 Matrix MEA
Date Rec'd 10/1/2012 Remarks

Lab ID: DOV120001

Tuesday, October 09, 2012

Batch #: DOV12100101Method: MT-60

 Analyze
 Result
 Units
 LOQ
 Preparation
 Analysis
 Remarks

 1,4-Dithiane
 450,000
 E
 ug/L
 500
 10/1/2012
 10/1/2012
 10/1/2012

 1,4-Thioxane
 4900
 ug/L
 500
 10/1/2012
 10/1/2012
 10/1/2012

HD 5500 ug/L (Suπogate) BFB 98 %R

Lab ID: DOV120001 DILUTION Batch #: DOV12100101Method: MT-60

 Analyte
 Result
 Units
 LOQ
 Preparation
 Analysis
 Remarks

 1,4-Dithiane
 1,100,000
 D
 ug/L
 100,000
 10/1/2012
 10/1/2012
 1:200 Dulition

(Surrogate) BFB 116 %R

Page 1 of 1

All results reported to two significant figures. LOQ = Limit of Quantitation. D = Sample was diluted. E = Estimated value; result above upper calibration level. E = Estimated value; result above upper calibration level. E = Estimated value below the LOQ. Result is an estimated value. E = Estimated value anomaly in QC results. E = Estimated detected in Method Blank.

Date: October 2013 Revision No. 0

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Analytical QC Results

PART 2

MBFORM-41 Revision 12 March 2010

PROJECT: **DOVER EDS Operation** Reporting POC: Ray DiBerardo of ECBC

ECBC: Ray DiBerardo

Phone/Fax:

Client Sample ID DAF-HD-121001-DL-01 Sample Date

10/1/2012

Result

1514

Matrix MEA

Units

%R

%R

Date Rec'd 10/1/2012 Remarks

Lab ID: DOV120001

Matrix Spike

Batch #: DOV12100101 Method: MT-60

LOQ Preparation Analysis 10/1/2012 10/1/2012 Remarks

1.4-Thioxane 73 HD

(Surrogate) BFB

Lab ID: DOV120001

Analyte

1,4-Dithiane

%R 98 %R

Batch #: DOV12100101 Method: MT-60

Matrix Spike Duplicate

Analyte	Result	Unit
1,4-Dithian e	1953	%R
1,4-Thioxane	92	%R
HD	90	%R
(Surrogate) BFB	107	%R

LOQ Preparation Analysis Remarks

> 10/1/2012 10/1/2012

Client Sample ID 12100101-LCS

Sample Date 10/1/2012

Matrix MEA

10/1/2012 Date Rec'd Remarks

Lab ID: DOV120002 Lab Control Spike

Analyte	Result	Units
1,4-Dithiane	92	%R
1,4-Thioxane	75	%₽
HD	69	%R
(Surrogate) BFB	107	%Ř

Batch #: DOV12100101 Method: MT-60

LOQ Preparation Analysis Remarks 10/1/2012 10/1/2012

MS/MSD and LCS/LCSD results are in % recovery. LOQ = Limit of Quantitation. D = Sample was diluted. E = Estimated value; result above upper calibration level. J = Detected above the method detection limit but below the LOQ. Result is an estimated value. Q = Unresolvable anomaly in QC results. Friday, October 05, 2012 Page 1 of 2

After Action Report EDS at DAFB Date: March 2013 Page: D-8 of D-120

Client Sample ID	12100101-LC	SD				
Sample Date	10/1/2012	Matrix MEA				
Date Rec'd	10/1/2012	Remarks				
Lab ID: DOV12	0003		Batch #:	DOV1210	0101 Met	hod: MT-60
Lab Control S	Spike Duplica	ite				
Analyte	Resul	t Units	LOQ	Preparation	Analysis	Remarks
1,4-Dithiane	84	%R		10/1/2012	10/1/2012	
1,4-Thioxane	68	%R				
НĎ	63	%R				
(Surrogate) BFB	103	%R				
Client Sample ID	12100101-Mi	3				
Sample Date	10/1/2012	Matrix MEA				
Date Rec'd	10/1/2012	Remarks				
Lab ID: DOV12			Batch #:	DOV1210	0101 Met	hod: MT-60
Method Blan Analyte	n Resu	lı Units	LOQ	Preparation	Analysis	Remarks
1,4-Dithiane	< 25	O ug/L	500	10/1/2012	10/1/2012	
			500			
1,4-Thioxane	< 25	o ug/L	500			

%R

(Surrogate) BFB

MS/MSD and LCS/LCSD results are in % recovery. LOQ = Limit of Quantitation. D = Sample was diluted. E = Estimated value; result above upper calibration level. J = Detected above the method detection limit but below the LOQ. Result is an estimated value. Q = Unresolvable anomaly in QC results.

Friday, October 05, 2012

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After Action Report EDS at DAFB Date: March 2013 Page: D-9 of D-120

Analysis Request Form Chain of Custody MBFORM-43 Revision 6 Hssue Date August 20, 2012 DELIVER TO US ARMY REECOM, ECGC, EMIL ATTN: Steven D. Norman, E3330, RM 184 5185 Blackhawk Rd. Aherdeer Proving Ground, MD 21010 PROJECT. EDS HD Destruction Operations, Dover, AFB, DE SAMPLE LOCATION: EDS Vessel, EOD Range, Dover AFB, DE SAMPLERISJORG: 2007	PHONE #: 4	Raymond A. DiBer 183 BLACKHAWK RD. APG- 10-652-3813 iberardo, Raymond A CIV (Fax #: N/A (US) <raymond a.diberardo.civ()="" analys<="" for="" nalytes="" requested="" th=""><th>@mail.mil></th></raymond>	@mail.mil>
COLE SCHOOL DATE and TIME SAMPLE NAME CONTROL SO CHARGEST MATE MATERIAL COLD DIFFERENCE SAMPLE NAME CONTROL SO CHARGEST MATERIAL COLD SO CHARGEST MA	MUMBER OF CORTAINERS	CONTAINER PRESERVATIVE 9	1.4-Dithiane	analytes available on request COMMENTS
				Part of the second seco
			000000	
			000000	
Observed Suspend Control (Control (Cont	<u> </u>			The state of the s
Observed Suspect Contamination (Check box to indicate a high probal Scienceurshed By: (Print) (Signature) A Fig. (Signature) Signature)	Date/Time Date/Time Date/Time	Received By (Print) Received By (Print)	(Signature)	Date/firme
iolinguished By. (Print) (Signature)	Date/Time	Received By: (Print)	(Signature)	Date Time

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